

**Names:** Adam Herd - 17364786, Jaime Kirk - 17922982

**Project Name:** Sentiment Analysis Online Chatbot

**Document:** User Manual

**Date:** 07/05/2021

## Table of Contents

<b>1. Abstract</b>	<b>2</b>
<b>2. Introduction</b>	<b>3</b>
<b>3. Getting Help</b>	<b>4</b>
<b>4. Product Search</b>	<b>6</b>
<b>4.1 Searching Products</b>	<b>6</b>
<b>4.2 List Products</b>	<b>7</b>
<b>4.3 Product Price</b>	<b>7</b>
<b>4.4 Product Ratings</b>	<b>7</b>
<b>4.5 Searching Reviews</b>	<b>8</b>
<b>4.6 Sentiment Analysis</b>	<b>9</b>
<b>4.7 Getting Product Link</b>	<b>9</b>
<b>4.8 Changing Product Page</b>	<b>10</b>
<b>4.9 End Search</b>	<b>10</b>
<b>5. Error Messages</b>	<b>11</b>
<b>5.1 Entering product number before searching product</b>	<b>11</b>
<b>5.2 Entering Invalid Command</b>	<b>11</b>

# 1. Abstract

Our project is a Sentiment Analysis online Chatbot. This chatbot is used to view products on Amazon (price, positive and negative reviews, link to product etc.) Users will interact with the chatbot by entering commands and then the chatbot will return a response if the command entered is valid or else a message stating that the command was not understood and to enter a valid command. All product information is gathered using Rainforest API which when called returns a list of all products that relate to the user's search query. This product information is then placed into a dictionary so it can be accessed easier.

It can also perform sentiment analysis on the reviews of whatever product you would like. This sentiment analysis is returned in the form of a pie chart that shows percentages regarding how positive and how negative the reviews were.

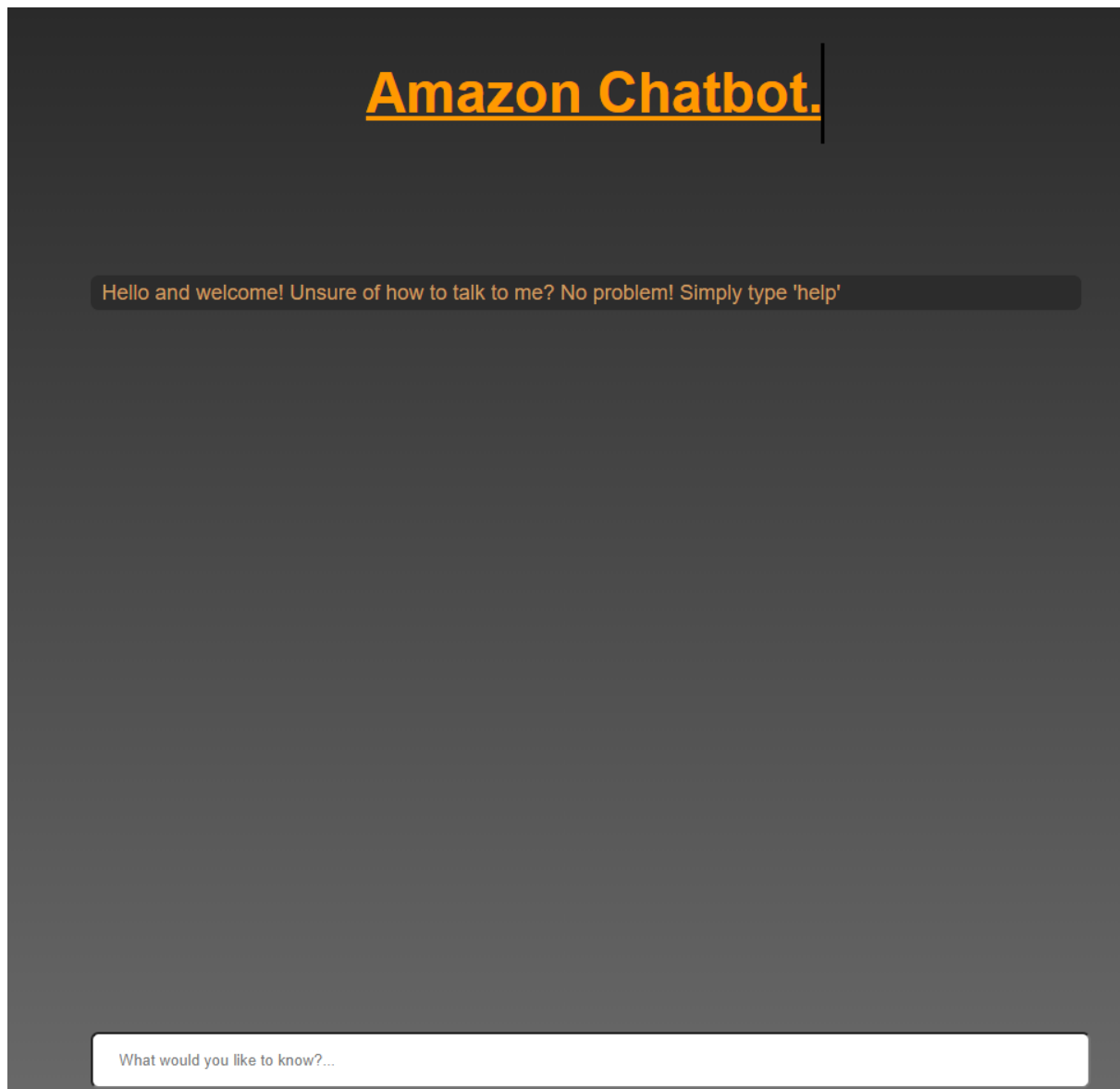
We are training models to be able to make predictions and classifications based on the data it has been trained on. For example, in the chatbot model, we are training it against a set of possible user inputs. Therefore, it will be able to predict when a user has entered such an input and return the appropriate response based on that.

For the sentiment analysis model, we are doing something similar. We are training a model against many reviews, each of which has a sentiment associated with it (positive or negative). The model will take in all the important words from these reviews and be able to associate a sentiment with those words. A positive word will be a 1, and a negative word will be a 0. Therefore, when it comes to the reviews on Amazon, the model can look through the words and predict what class they belong to (positive or negative), and will return a decimal number which will represent how positive or how negative the review was.

## 2. Introduction

The main goal of this app was to give users an easy and free way to search product information without having to search through large amounts of text and easily find the exact product that fits their needs. To do that, they must know how to use it.

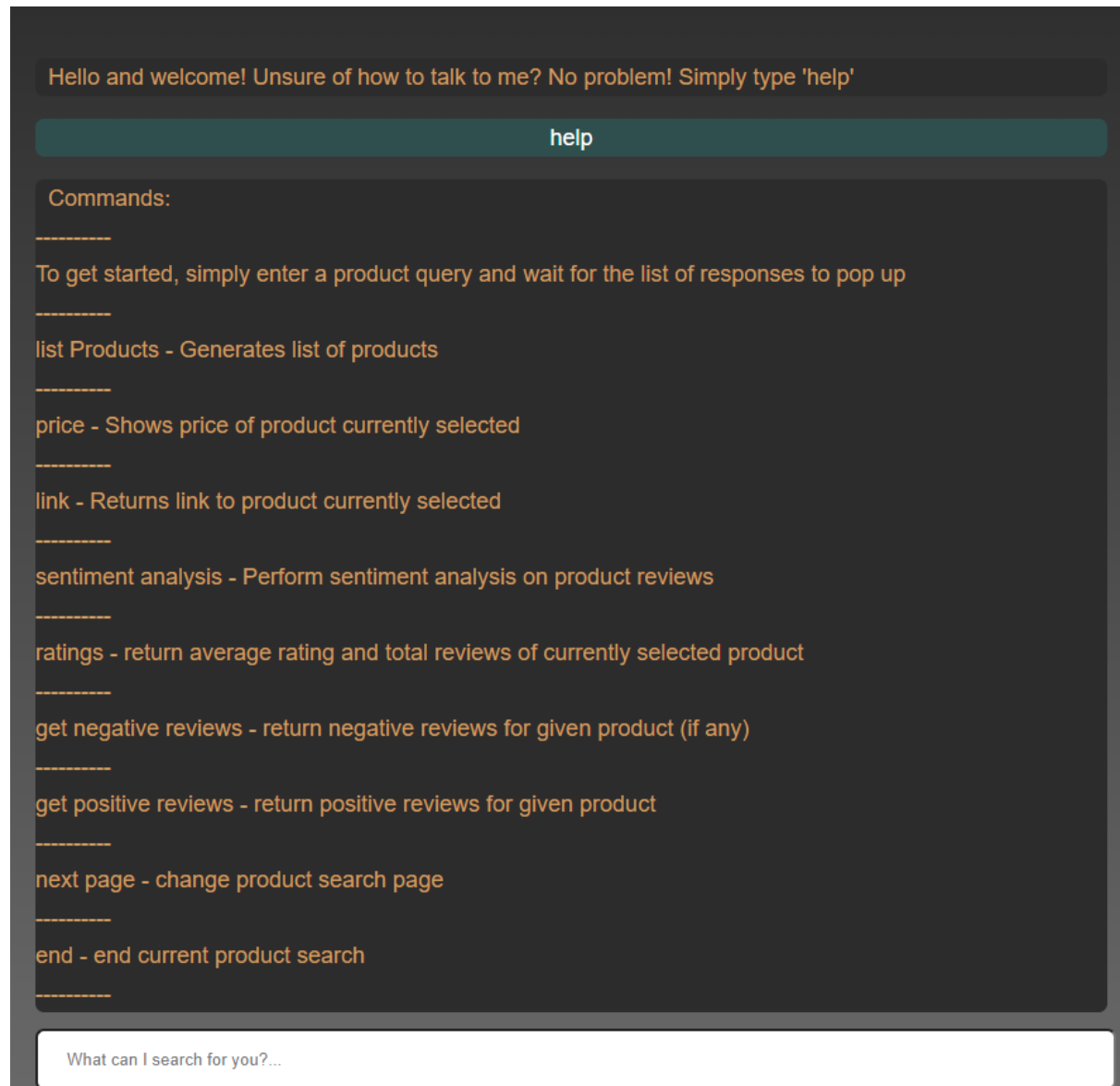
This is the screen users will see when they first start up the chatbot.



They enter commands in the textbox at the bottom and responses will be displayed just like the starting message shown here. The user can then enter their search query in the text box at the bottom of the page.

### 3. Getting Help

The user can also get help with what commands are available if they are unsure. There are a couple of different commands the user can use. Entering “help” or “help all” to get information about all commands or “help search” to get help with how to perform a search. Finally users can enter “help reviews” to get all commands for getting review information.



The screenshot shows a chat interface with a dark background. At the top, a message says: "Hello and welcome! Unsure of how to talk to me? No problem! Simply type 'help'". Below this is a teal button labeled "help". Under the button, the text "Commands:" is followed by a list of commands, each preceded by a dashed line. The commands are: "To get started, simply enter a product query and wait for the list of responses to pop up", "list Products - Generates list of products", "price - Shows price of product currently selected", "link - Returns link to product currently selected", "sentiment analysis - Perform sentiment analysis on product reviews", "ratings - return average rating and total reviews of currently selected product", "get negative reviews - return negative reviews for given product (if any)", "get positive reviews - return positive reviews for given product", "next page - change product search page", and "end - end current product search". At the bottom, there is a white input field with the placeholder text "What can I search for you?..."

Hello and welcome! Unsure of how to talk to me? No problem! Simply type 'help'

help

Commands:

-----

To get started, simply enter a product query and wait for the list of responses to pop up

-----

list Products - Generates list of products

-----

price - Shows price of product currently selected

-----

link - Returns link to product currently selected

-----

sentiment analysis - Perform sentiment analysis on product reviews

-----

ratings - return average rating and total reviews of currently selected product

-----

get negative reviews - return negative reviews for given product (if any)

-----

get positive reviews - return positive reviews for given product

-----

next page - change product search page

-----

end - end current product search

-----

What can I search for you?...

# Amazon Chatbot.

Hello and welcome! Unsure of how to talk to me? No problem! Simply type 'help'

help search

Enter a product name to search existing products or type 'end' to end current search and search another product

help reviews

Commands: Sentiment analysis - Displays charts with review information

-----  
Positive - returns positive reviews of currently selected product

-----  
Negative - returns negative reviews of currently selected product

-----  
What can I search for you?...

These commands will all work once a product has been selected after initial search is done. If no product is selected they will receive a message to select a product.

## 4. Product Search

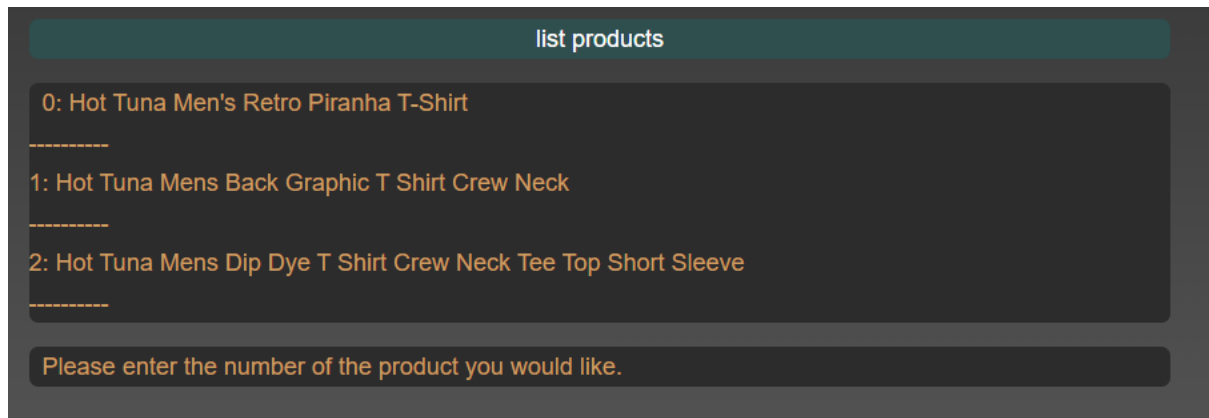
### 4.1 Searching Products

When the chatbot opens the user can enter the name of the product they are looking for and then this will return a list of products similar to their search query.



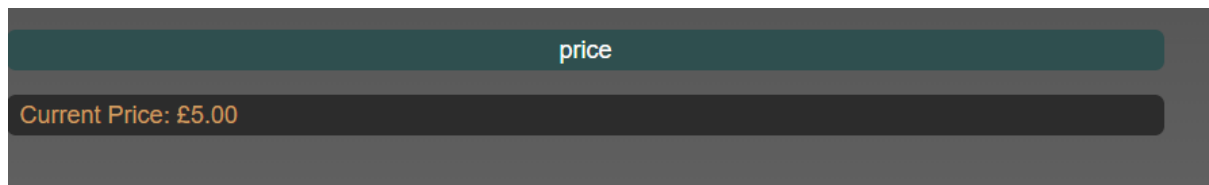
## 4.2 List Products

After searching a product then the user can view all products by entering “list products” or a similar command then this will list all products that are similar to the search query that the user has entered. The user can then enter the number of the product that they want further information on.



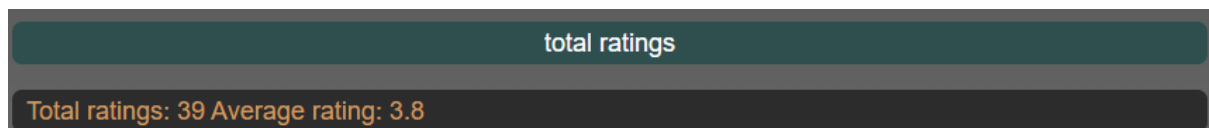
## 4.3 Product Price

After choosing the product user can use commands to get more information on that product. One being the price command where the user enters “what is the price?” and the price of the product will be returned.



## 4.4 Product Ratings

Another command is the rating command where the chatbot will return the average rating of the product. The user can enter “total ratings” and the average rating of the selected product will be displayed.

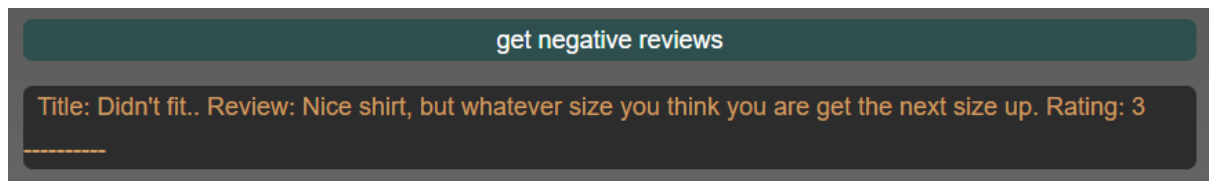


## 4.5 Searching Reviews

Users can use the review commands to get positive and negative reviews from the chatbot. The user can enter “display positive reviews” and a list of positive reviews will be displayed.



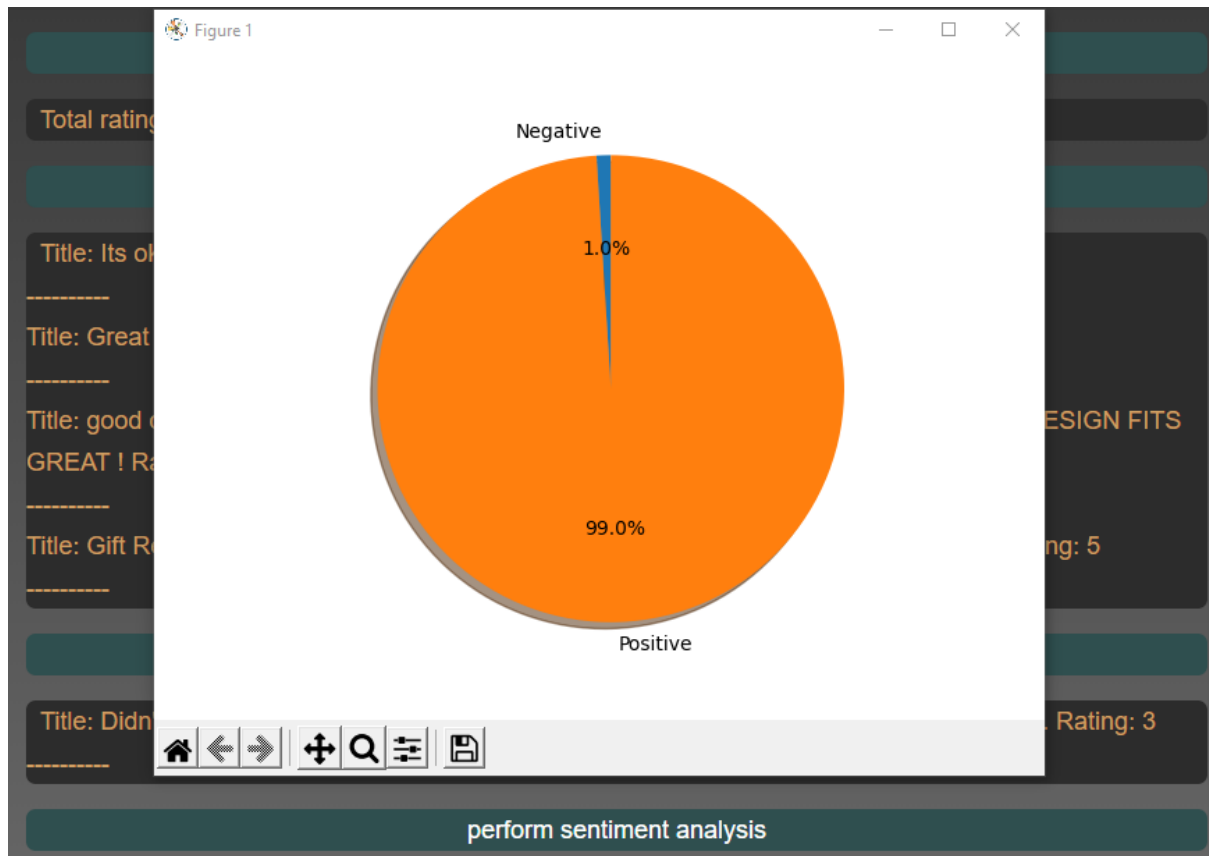
Users can also search for negative reviews by entering “get negative reviews” and a list of negative reviews will be displayed.





## 4.6 Sentiment Analysis

The user can use the sentiment analysis command to get information about reviews as a pie chart. The user can enter “perform sentiment analysis” and then the calculation will be automatically completed and a window will be displayed with the chart.



## 4.7 Getting Product Link

The user can use the link command to get a link to the product page on Amazon. They can enter “product link” then the product link will be displayed that they can use to access the product page on Amazon’s website.

link

<https://www.amazon.co.uk/dp/B07SSBBLZ2>

## 4.8 Changing Product Page

The user can also change pages using the change page command which will allow them to access a larger range of products. They can enter “next page” and then a new list of products will be displayed to the user



## 4.9 End Search

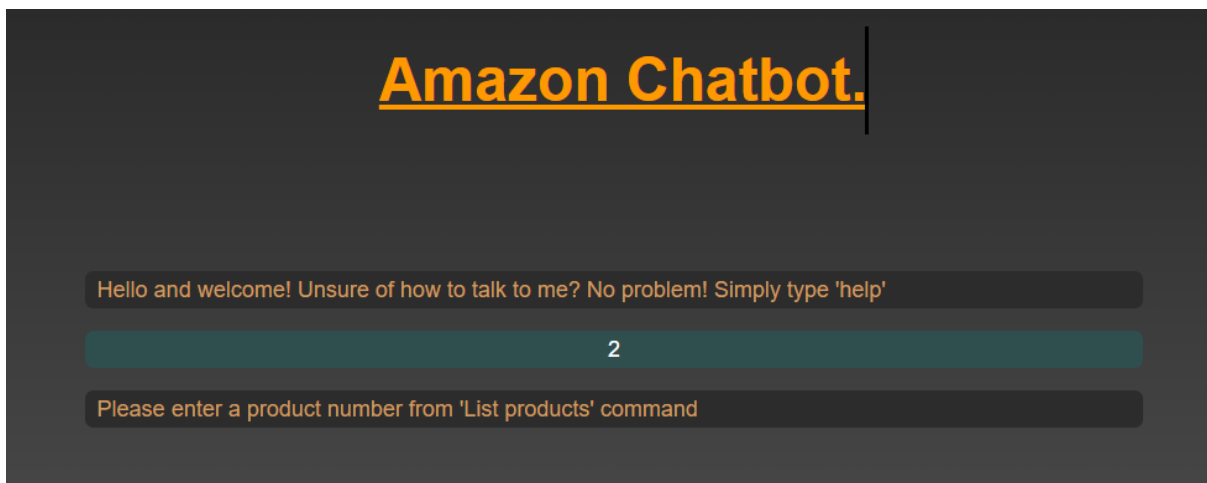
If the user wants to search for a different product during a current search they can use the “end” command which will reset the current search and the user can start a brand new search.



## 5. Error Messages

### 5.1 Entering product number before searching product

If the user tries to enter a product number or uses one of the search commands before searching then the message “Please enter a product number from “List commands” will be returned”. The user must then either enter their search query if they haven’t already entered it or enter a product number from the list displayed.



### 5.2 Entering Invalid Command

If the user enters a command that is invalid then the message “Sorry, I don’t understand” will be displayed by chatbot. The user must then enter a valid command to continue using the chatbot.

